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AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	CP-RW-2017-11-02-01	**Date: 04-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.	
Address	:	Yelahanka Sub division, BBMP, Bangalore.	
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.	
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.	
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	02-11-17	
Sample ID No	:	2017-11-02-01/01	
Type of Mix	:	WMM (Wet Mix Macadam)	
Date of test	:	02-11-17	
Oven Dry Weight	:	11000	Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	212	212	1.9	98.1	95-100
22.4	2398	2610	23.7	76.3	60-80
11.2	3072	5682	51.7	48.3	40-60
4.75	2197	7879	71.6	28.4	25-40
2.36	1446	9325	84.8	15.2	15-30
0.6	532	9857	89.6	10.4	8-22
0.075	822	10679	97.1	2.9	0-5

Note:-

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Certificate No.: TC-5548

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2017-11-02-01** **Date: 04-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	02-11-17
Sample ID No	:	2017-11-02-01/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	02-11-17

SLNo	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	299.7	299.7
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	62.0	66.1
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	237.1	233.2
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.6	0.4
5	Aggregate impact value	(B/A)*100	20.7	22.1
6	Aggregate impact value (Mean of two tests)	Pecentage	21.4	

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	CP-RW-2017-11-02-01	**Date: 04-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.	
Address	:	Yelahanka Sub division, BBMP, Bangalore.	
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.	
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.	
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	02-11-17	
Sample ID No	:	2017-11-02-01/01	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	02-11-17	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	10.2%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	11.8%	
Combined Flakiness and Elongation Index for WMM	22.0%	

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Certificate No.: TC-5548

TEST REPORT ON BITUMEN

Lab ID	:	**CP-2017-11-02-02** **Date: 04-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.
Customer's Reference	:	BBMP/EE/YNK.D/WO/124/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	02-11-17
Sample ID No	:	2017-11-02-02/01
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)
Date of test	:	02-11-17

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	88	80 to 100
2	Softening Point, °C	49	Min. 40°C
3	Ductility, cm	89	Min. 75cm
4	Flash point, °C	226	Min. 220°C
	Fire point, °C	242	

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Prepared by
Harshitha

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	CP-RW-2017-11-06-02 **Date: 08-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-11-17
Sample ID No	:	2017-11-06-02/01
Type of Mix	:	BC-Plant (Bituminous Concrete)
Date of test	:	06-11-17
Oven Dry Weight	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	72	72	1.4	98.6	90-100
9.5	821	893	17.9	82.1	70-88
4.75	911	1804	36.1	63.9	53-71
2.36	421	2225	44.5	55.5	42-58
1.18	442	2667	53.3	46.7	34-48
0.6	511	3178	63.6	36.4	26-38
0.3	521	3699	74.0	26.0	18-28
0.15	412	4111	82.2	17.8	12-20
0.075	502	4613	92.3	7.7	4-10
PAN	387	5000	100	0.0	0

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Certificate No.: TC-5548

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID	:	**CP-RW-2017-11-06-02** **Date: 09-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-11-17
Sample ID No	:	2017-11-06-02/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	06-11-17

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	11.3	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	10.8		
Strength	Aggregate Impact Value	23.2	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.29	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.24	Maximum 2%	IS:2386 Part III

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	CP-RW-2017-11-06-02 **Date: 09-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-11-17
Sample ID No	:	2017-11-06-02/01
Type of Mix	:	BC(Bitumenous Concrete)
Date of test	:	06-11-17

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.0	Minimum Retained Coating 95%
2	97.5	2.5		
3	98.0	2.0		

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-11-06-02** **Date: 09-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	06-11-17
Sample ID No	:	2017-11-06-02/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	06-11-17

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.24	11.16	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.61	2-4
3	Percent air Voids	4.82	4.73	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.16	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	70.63	65-75
6	Density, g/cc	2.25	2.26	–

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2017-11-11-01
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Providing pot hole filling at Chowdeshwari Ward no.02 of Yelahanka Sub division.
Agency	:	Sri. B. B Umesh (SMLP Asphalts) Bettahalsoor village and Post Bangalore.
Customer Reference	:	BBMP/EE/YNK.D/WO/124/2016-17
Source of Sample	:	Sample supplied by Agency
Date of Receipt	:	11-11-17
Sample ID No	:	2017-11-11-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	11-11-17

Date: 11-11-17

SLno	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	501
2	Weight of the sample After extraction	B	478	477
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	4.40	4.79
4	Average percentage	%	4.6	

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Lab ID : CP-RW-2017-11-11-01
Sample ID : 2017-11-11-01/01
Date: 11-11-17

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 478.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	78	86	18.0	82.0	70-88
4.75	99	185	38.7	61.3	53-71
2.36	78	263	55.0	45.0	42-58
1.18	42	305	63.7	36.3	34-48
0.6	18	323	67.5	32.5	26-38
0.3	29	352	73.6	26.4	18-28
0.15	45	397	83.0	17.0	12-20
0.075	48	445	93.0	7.0	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 478

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	81	87	18.2	81.8	70-88
4.75	101	188	39.3	60.7	53-71
2.36	75	263	55.0	45.0	42-58
1.18	42	305	63.8	36.2	34-48
0.6	21	326	68.2	31.8	26-38
0.3	25	351	73.4	26.6	18-28
0.15	48	399	83.5	16.5	12-20
0.075	52	451	94.4	5.6	4-10

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